

SEMESTER 1 FINAL REVIEW WORKSHEET #2

CHAPTER 3 – PARALLEL & PERPENDICULAR LINES

For Questions 1-10, use the following parallel lines and transversal.

1. $\angle 4$ and $\angle 6$ are alternate interior angles.

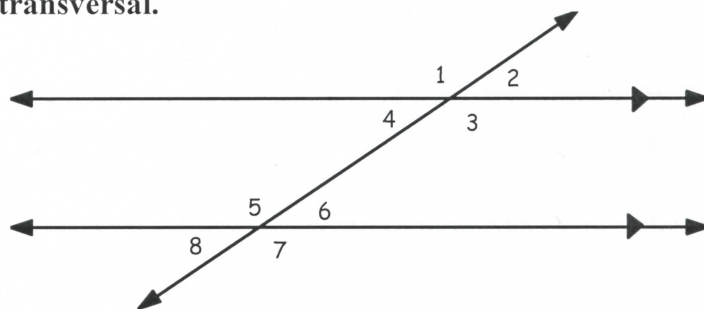
2. $\angle 4$ and $\angle 5$ are consecutive interior angles.

3. $\angle 4$ and $\angle 8$ are corresponding angles.

4. $\angle 4$ and $\angle 2$ are vertical angles.

5. If $m\angle 1 = 129^\circ$, find $m\angle 7$. $m\angle 7 = 129^\circ$

7. If $m\angle 5 = 137^\circ$, find $m\angle 8$. $m\angle 8 = 43^\circ$



6. If $m\angle 4 = 33^\circ$, find $m\angle 6$. $m\angle 6 = 33^\circ$

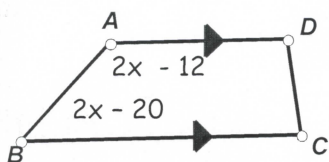
8. If $m\angle 2 = 129^\circ$, find $m\angle 6$. $m\angle 6 = 129^\circ$

9. When lines are parallel, name all of the angles that are congruent to $\angle 1$. $\angle 3, \angle 5, \angle 7$

10. When lines are parallel, name all of the angles that are supplementary to $\angle 1$. $\angle 2, \angle 4, \angle 6, \angle 8$

11. Find the value of x and the measure of $\angle B$.

11. a. $x = 53^\circ$



$$\begin{aligned}(2x - 12) + (2x - 20) &= 180 \\ 4x - 32 &= 180 \\ 4x &= 212 \\ x &= 53^\circ\end{aligned}$$

b. $m\angle B = 86^\circ$

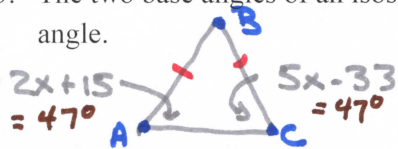
$$\begin{aligned}\angle B &= 2x - 20 \\ &= 2(53) - 20 \\ &= 106 - 20 \\ &= 86^\circ\end{aligned}$$

CHAPTER 4 – TRIANGLES

12. The three angles of a triangle measure $(2x + 5)^\circ$, $(3x - 7)^\circ$, and $(x + 14)^\circ$. Find the value of x .

$$\begin{aligned}(2x + 5) + (3x - 7) + (x + 14) &= 180 \\ 6x + 12 &= 180 \\ 6x &= 168 \\ x &= 28\end{aligned}$$

13. The two base angles of an isosceles triangle measure $(2x + 15)^\circ$ and $(5x - 33)^\circ$, find the measure of the vertex angle.



$$\begin{aligned}2x + 15 &= 5x - 33 \\ 15 &= 3x - 33 \\ 48 &= 3x \\ x &= 16^\circ\end{aligned}$$

$$\begin{aligned}m\angle ABC &= 180^\circ - 47^\circ - 47^\circ \\ &= 86^\circ\end{aligned}$$

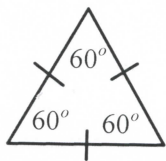
14. What are the 3 ways that we can classify a triangle according to its sides?

SCALED, ISOSCELES, EQUILATERAL

15. What are the 4 ways that we can classify a triangle according to its angles?

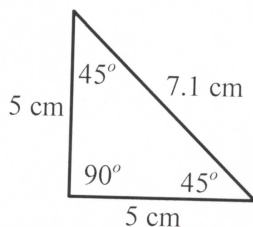
ACUTE, RIGHT, OBTUSE, EQUIANGULAR

16. Classify each triangle below by its sides and angles



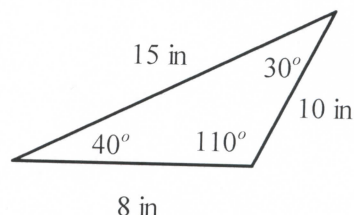
sides EQUILATERAL

angles EQUIANGULAR



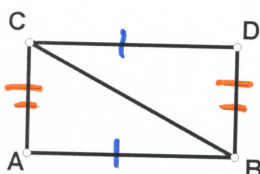
sides ISOSCELES

angles RIGHT



sides SCALENE

angles OBTUSE



17. What postulate or theorem would you use to prove the triangles congruent?

17. SSS

18. Complete the congruence statement.

18. $\triangle ABC \cong \triangle DCB$

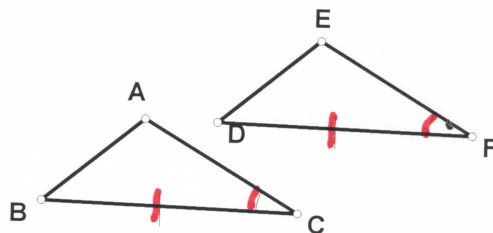
Look at the diagram for questions 19-20

19. What additional information would be needed to prove $\triangle ABC \cong \triangle EDF$ using SAS?

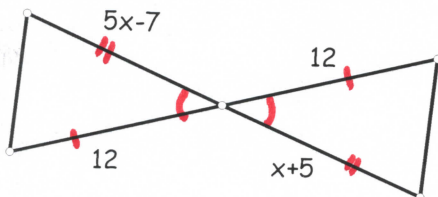
$\overline{AC} \cong \overline{EF}$

20. What additional information would be needed to prove $\triangle ABC \cong \triangle EDF$ using ASA?

$\angle B \cong \angle D$



21. For what value of x , will the two triangles be congruent by SAS?



$$\begin{aligned} 5x-7 &= x+5 \\ 4x-7 &= 5 \\ 4x &= 12 \\ x &= 3 \end{aligned}$$

25. $x = \underline{3}$

22. What does CPCTC stand for? CORRESPONDING PARTS OF CONGRUENT TRIANGLES ARE CONGRUENT